Notice of Allowability	Application No.	Applicant(s)	
	09/550,391	KAWANO, `HIROSHI	
	Examiner	Art Unit	
	Scott A Rogers	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the RCE filed 25 August 2004*.

2. ☒ The allowed claim(s) is/are *1-7 and 14-17*.

3. ☒ The drawings filed on *14 April 2000* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 8/25/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Scott A Rogers

SCOTT ROGERS
PRIMARY EXAMINER

Examiner's Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Referring to claims 1, 7, 14, and 15, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, extracting a dot area in an image based on image data and a moiré-removing spatial filter for both limiting the spatial frequency components of the extracted dot area to an image data portion corresponding to the dot area and attenuating or removing a predetermined spatial frequency component of the extracted dot area liable to cause Moiré.

Referring to claims 2-6, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, a convolution operation of a matrix defining a characteristic of a first filter for attenuating or removing Moiré-causative spatial frequency component and a matrix defining a smoothing filter characteristic.

Referring to claims 16-17, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, a moiré-removing spatial filter defined by a convolution operation of a first matrix, defined by a convolution operation of a plurality of band-cut filter matrices, and a second matrix, defined by a smoothing filter characteristic to attenuate and smooth the entirety of the spatial frequency to be contained in the image.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

Motomiya (JP 3-030574) provides two types of filters: a low-pass filter 3 that reduces the energy in the higher frequency region considered as the sampling frequency of the CCD reader 1 among the output signals of the analog-to-digital converter 2; and a band-stop filter 4 that reduces the frequency spectrum according to the cycle of the dither matrix among the output signals of the low-pass filter 3 and that gives the reduced frequency spectrum to the adder 21 in the form of the digital image data. Motomiya does not disclose extracting a dot area in an image and filtering the extracted dot area. Furthermore, Motomiya does not disclose using a spatial filter to both limit the spatial frequency components of an extracted dot area and attenuate or remove a predetermined spatial frequency component of the extracted dot area as set forth in applicant's claims 1, 7, 15, and 15.

Ejiri (JP 57-024168) discloses filtering based on a convolution calculation using a correction function according to the dimension of a transmission function. The correction function according to the dimension of the transmission function is developed in a small range of dimension in advance. The convolution processor uses small filters, having the small range of correction functions determined in advance, serially arranged at multiple stages as needed according to the dimension of the transmission function. This disclosure by Ejiri does not correspond to a convolution operation of a matrix defining a characteristic of a first filter for attenuating or removing Moiré-causative spatial frequency component and a matrix defining a smoothing filter characteristic as

set forth in applicant's claims 2-6. Similarly, the disclosure by Ejiri does not correspond to a moiré-removing spatial filter defined by a convolution operation of a first matrix and a second matrix as set forth in applicant's claims 16-17.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers whose telephone number is 703-305-4726. The examiner can normally be reached on Monday & Wednesday 6:00am-6:00pm and Tuesday & Thursday 6:00am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 305-4863.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at 703-306-0377. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott A Rogers

SCOTT ROGERS
PRIMARY EXAMINER

14 November 2004